

REMARKS

This paper responds to the Office Action mailed on April 18, 2007. Claims 1-22 remain pending in this application.

§103 Rejection of the Claims

Claims 1-7 and 9 were rejected under 35 USC § 103(a) as being unpatentable over Roman (The International Society for Hybrid Microelectronics (ISHM) Symposium Proceedings, October 1992, (October 1992), 1-6) in view of Reyes (U.S. 6,762,495). Applicant respectfully traverses the rejection because there is no motivation or suggestion to combine Roman and Reyes.

Applicant respectfully submits that the rejection fails to establish a legally sufficient motivation to combine the references. To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

The Office Action states at page 3 that “it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Roman’s process to utilize on a motherboard bonded to a die bonded to a substrate in order to ensure connectivity in an array package (see Reyes col. 1, ll. 10-50).” Applicant respectfully traverses this assertion.

The Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Mere conclusory statements are unsatisfactory.

“With respect to Lee’s application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner’s conclusory statements that ‘the demonstration mode is just a programmable feature which can be used in many different devices for providing automatic introduction by adding the proper programming software’ and that ‘another motivation would be that the automatic demonstration mode is user friendly and it functions as tutorial’ do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and

could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill in the art would have been lead to this combination of references, simply to use “[use] that which the inventor taught against its teacher.” *W.L. Gore V. Garlock, Inc.*, 721 F. 2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).” *Lee*, at 1343, 1344.

Applicant respectfully submits that the Examiner’s statement regarding motivation is analogous to the inadequate conclusory statements quoted above that were made by the Examiner and Board in the *In re Lee* case. It is respectfully submitted that the Examiner’s assertion as to motivation amounts to a form of Official Notice.

Applicant notes that Roman does not appear to teach or suggest bonding a first contact that is on a motherboard to a second contact that is on an electronic package where the electronic package includes a die mounted on a substrate. Applicant further notes that Roman only describes die attachment procedures instead of bonding an electronic package that includes a die to a motherboard.

In addition, Applicant notes that Reyes does not appear to describe an interlayer much less diffusing an interlayer into adjoined contacts. Applicant has reviewed the portions of Reyes cited by the Examiner and can not find any teaching or suggestion as to melting an interlayer to diffuse the interlayer into the first and second contacts such that the bonded first and second contacts have a higher melting temperature than the interlayer before melting.

Applicant respectfully submits that the only teaching or suggestion relating “engaging a first contact on a motherboard with a second contact on an electronic package that includes a die bonded to a substrate, a portion of one of the first and second contacts being covered with an interlayer that has a lower melting temperature than the first and second contacts” in combination with “bonding the first contact to the second contact by melting the interlayer to diffuse the interlayer into the first and second contacts, the bonded first and second contacts having a higher melting temperature than the interlayer before melting” as recited in claim 1 is found in Applicant’s disclosure.

Reconsideration and allowance of claims 1-7 and 9 are respectfully requested.

RESERVATION OF RIGHTS

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record is relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (262) 646-7009 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

DAEWOONG SUH

By his Representatives,
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, Minnesota 55402
(262) 646-7009

By / Andrew Peret /
Andrew R. Peret
Reg. No. 41,246